UV Photometric Transmitter

Model 53T Series UV Photometer

CST offers a fiber optic based UV transmitter for continuous process monitoring applications. The UV transmitter is reliable, durable, and designed for many industrial application for either gas or liquid samples. Additionally the transmitter is supplied with an automatic means of calibration and diagnostic that alarms the user if the windows are fouled or there is a broken fiber. Our family of fiber optic probes or flow cells can also be supplied by the factory to compliment any process sample interface.

Industrial Applications

Many industries can economically benefit from monitoring just a few wavelengths on-line. Typically the return on investment for this type of product is less than 3 months. The product lifetime of approximately 10 years this makes for a very valuable investment.

Controlling a process is first accomplished by careful monitoring of your process. Below are examples of typical industries using UV-transmitters.

- *Chemical*
- *Pulp & Paper*
- *Emission Monitoring*
- *Pharmaceutical*
- *Water Quality*
- *Refinery/Petrochem*
- *Food & Beverage*
- *Utilities*
- *Biotechnology*
- *Environmental*

Typical Compounds Measured with UV

Typically gases or liquids that exhibit a strong absorbance in the UV have chemical structures that contain: Aromatics rings, Carbonyl groups, Aldehydes, Ketones, Halogens, and Amines. A few examples of compounds in this class are;

- Ketones
- Acetone
- ClO_2 (gas)
- VOC/TOC
- Phenol
- Aldehydes
- Ammonia
- SO_2
- Benzene
- Chlorine
- Proteins
- H_2S

And many others...

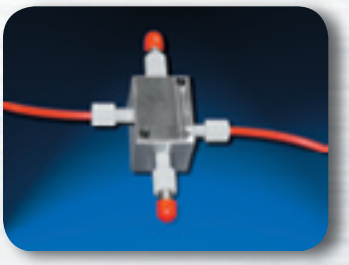
The UV Transmitter

Custom Sensors & Technology manufacturers low cost UV transmitters that send light out to a flow cell or probe (via fiber optic cables) and measures the returning signal using Beers Law, the optical signal is linearized and the resulting 4-20mA signal can be sent to a PLC or DCS for process control.

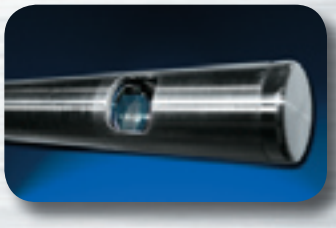
Example of a UV transmitter suited for a C1D2 area

Combining flash lamp technology with highly sensitive detectors and separating the electronics from the process stream via fiber optic cables is an ideal solution to monitoring your process stream. Reliable components that can operate continuously with minimal maintenance further enhances the value of this product in your process.

Sample Interface; Flow Cells or Probes



Low Volume flow cell with PTFE tubing and Upchurch fittings



Single or double sided transmission probes

Custom Sensors & Technology is a manufacturer of process photometric and electrochemical based process transmitters

Typical 53T Product Specifications

Transmitter

Measured parameter	Application dependent
Temperature Range	-5˚C to +55˚C (operating conditions will depend on packaging options)
Response time	< 1 min. to 90% of FS
Detector Response	210-650nm
Maximum Zero shift	0.020AU (over +20 to +40C)/24 hours
Repeatability	1% or less of Full Scale range
Measurement Drift	<+/-3% of Full Scale/month

User Display & control

Type of display	LED display
Display numerical format	3-1/2 digits

Electrical

Power requirement	24V DC (9-32VDC).
Power consumption	350mA @ 24VDC
Analog outputs	4-20mA isolated
Analog loop resistance	500 Ohms, nominally @ 24V
Alarms	Optional (this can be offered through our systems integration group)

Mechanical

Transmitter weight	3 lbs
Enclosure construction	Extruded Aluminum, Optional Nema enclosures or purged enclosures are offered through our systems integration group
Transmitter size	8″ x 3-7/8″ x 1.5″ (HWD″)

Lamp

Type	Xenon Flash Lamp
Wavelength range	200-650nm
Lamp Life	Typically 1 year, typically
Size	2″ x 4 x 1-1/2″ (HWD″)

Packaging

Transmitters may be mounted in any required enclosure to meet customer area classification needs. Additionally, CST can provide sample handling systems for samples that need to be extracted from the process line. Please consult factory for your packaging and sample handling needs.

Custom Sensors & Technology is a full service provider. We also supply photometric transmitters, fiber optic probes & flow cells, O_2 transmitters, sample handling systems, and services including: application engineering, commissioning & start-ups, product validation, factory acceptance testing, process stream GAP Analysis, and in-house repair.

Custom Sensors and Technology is a Division of Custom Sample Systems, Inc.
531 Axminister Drive, Fenton, MO. 63026, Phone: 636.305.0666, FAX 636.305.1096
E-Mail cstinfo@customsensors.com